# The Maryland Fruit Grower

September, 1933

Maryland State
Horticultural Society

# Maryland ◆ Fruit ◆ Grower

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**A. F. VIERHELLER, Editor**

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*AUTUMN*

Oh, who would die in autumn,
When fruit is right fur eatin',
When wavy corn is gettin' ripe,
And candidates is treatin';
When sausage meat is fryin',
And hickory nuts is thick.
Oh, who would think of dyin'
Or even gettin' sick.

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*SUMMER MEETING*

Following the usual custom, the Maryland State Horticultural Society held its annual summer field meeting, but divided it into two regional meetings, as it was felt that fruit growers might not want to travel too great a distance.

The first meeting was held at the orchard of Mr. A. H. Nofsinger, near Cockeysville, Baltimore County on Tuesday, July 18. About 115 people were present, representing prominent growers from Baltimore, Montgomery, Howard, Cecil, Harford and Carroll counties.

Mr. and Mrs. Nofsinger were excellent hosts, and the day was spent most pleasantly. In the morning the group was conducted through the roadside market room, the 9000 bushel capacity common storage and the packing house and by-product plant. We found that seven grades of peaches and three to four grades of apples are packed, for the roadside trade. Disease had gotten into the apple orchard, due to bad weather delaying sprays. Mr. Nofsinger is using early cultivation, then allowing wild growth to come in, disking it lightly if it becomes too rank.

After a picnic lunch, in the shade of the trees on a beautiful lawn, a program of speaking was held.

Mr. Nofsinger stated that roadside market owners should unite with the State Association of Roadside Markets, for protection against the "fake" markets. Also that apple growers must advertise apples or else let other fruits ruin their business. Dr. Cory reviewed the newer insecticides. Dr. H. B. McConnell told of the recent findings showing that aphis may spread peach yellows. Dr. J. H. Beaumont discussed the prospects of finding a satisfactory fruit washing material, if we should have to wash our fruit, due to unforseen circumstances. Dr. A. L. Schrader, explained some experiments

showing that in mature apple trees, the largest root area is from 3 feet from the trunk, out to the limb spread of the tree. Mr. J. A. Cohill, representing the Farm Credit Administration told of the aims and operations of the law for re-financing farm mortgages. Dr. T. B. Symons urged fruit growers to keep their organizations intact and to strengthen them.

The party then went to C. K. McCaslin's orchard, where peach thinning was shown using various methods such as light shaking, heavy shaking and hand thinning, and some top-worked trees of mis-named varieties were examined and methods or advisability of top-working were discussed. The McCaslin orchard was in excellent growth and the crop was in good condition.

The meeting adjourned at this point.

On Friday, July 28, a second meeting was held, the group assembling at Clenallen Orchards near Hancock. After a tour through Clenallen and Fulton Orchards, the packing house at Marvania Orchards was visited, then some peach thinning was demonstrated and discussed. The effects and differences were shown between hand-thinning alone, and the use of rubber-padded iron bars in "jarring" the trees before hand-thinning. A crop-estimating contest was also held.

The group then drove to Hancock for lunch and a picnic lunch was also held on Andy Cohill's lawn. After lunch, a demonstration of the work of the State Entomology Department was made by Mr. C. Graham, Field Entomologist. Then a trip through the insecticide test plots, and on to Jack Caspar's "Corona" Orchards, where Dr. L. P. Fletcher of the U. S. Department of Agriculture showed some trees receiving nitrate of soda each month for four months (June, July, August and September). After a fine scenic trip, we saw some apple thinning experiments in connection with biennial bearing of York apple trees. The trip ended at Sam Dillon's cold storage house, where we held a short meeting in an air-cooled room. The same speakers made addresses as those at the July 18 meeting, and in addition, Dr. D. F. Fisher of the U. S. Department of Agriculture, discussed fruit washing experiments. Refreshments were served, and after a visit to the packing house and stationary spray plant at Dillon's Orchard, the meeting adjourned. About 140 people participated in this tour and meeting, there being some growers present from West Virginia, Pennsylvania and Virginia. The Society takes this occasion to thank those who made our visits to their orchards so pleasant and instructive.

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The Summer Meeting of the Pennsylvania State Horticultural Association held at State College on August 7 and 8 was a fine affair. There was plenty to see and learn. If you don't believe in soil organic matter in orchards, run up there sometime and see for yourself.

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## *CODLING MOTH AGAIN*

The most severe outbreak of codling moth in many years is reported in the Cumberland-Shenandoah Valley. With the spray residue problem on one side, and the moth damage on the other, it seems likely that more and better sprays and the washing of fruit will be up for consideration before next season.

## *STORM DAMAGE*

It has been difficult to determine storm damage of August 23 to the fruit crop in Maryland. Rather severe damage occurred in peaches in some sections, while others had little loss as peach harvest was about over. A considerable amount of wind-blown fruit was salvaged by quick local sale. The Western Maryland section had experienced some outbreaks of brown rot and where peaches were bruised by the storm but not blown from the trees, the rot condition increased its spread. The rot spores caused considerable damage in many cases, even after peaches were packed and shipped.

Apples were blown from trees in most sections of the State. Growers reported from 10 to 40% less, some smaller orchards even reporting total losses. Heavily loaded trees seemed least affected, and the wet fruit and foliage saved some bruising and rubbing. Some growers were optimistic enough to report a good thinning by the storm, removing defective fruits and allowing better chance for remaining fruit to size and color. However, in many cases, leaves were badly torn and it takes leaves to give fruit its size, color and flavor.

Some apples were salvaged by commercial canning and quite a large amount of this fruit went to market. The market prices slumped under the large supplies and condition of the fruit.

There were reports of tree damage and tree losses by breakage and uprooting, but the extent of this damage is as yet unknown. All things considered, we could have gotten along much better without the storm.

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## *THE WEST VIRGINIA MEETING*

The Annual Field Day of the West Virginia Horticultural Society was held at the H. W. Miller orchard at Paw Paw, on Wednesday, September 6, with an attendance of about 200 people, representing growers from West Virginia, Pennsylvania and Maryland.

It was a fine meeting and the remarks by speakers were significant. Dr. E. C. Auchter of the U. S. Department of Agriculture plainly stated that the successful grower must maintain his soil fertility, must spray intelligently, prune properly, and then get his nerve up and slaughter weak trees to reduce his unprofitable tree acreage. The successful grower of the future, he stated, will have less trees with better care.

Mr. Fred Motz, who represents the U. S. Department of Agriculture in foreign fruit markets, gave no bright picture of foreign trade, at present. He stated that Europe wants our fruit, but that unless we maintain our reputation as growers of high quality fruit, and grade and pack it to our best ability, our trade will be lost, as several foreign countries have copied our pack and are all ready to cut into our foreign markets. Since we produce much more fruit than can be consumed at home, the foreign market situation affects every fruit grower.

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Captain—"Got the floor scrubbed yet?"
Recruit—"No."
Captain—"No, what?"
Recruit—"No soap."

# THE NEXT TEN YEARS IN THE FRUIT INDUSTRY*

M. R. Cooper, Bureau of Agricultural Economics
U. S. Department of Agriculture

## The General Fruit Situation

Properly to appraise the general fruit situation we must go back to the World War. It was at that time that farmers throughout the United States expanded the acreage and production of such commodities as wheat, cotton, feed crops, and livestock.

After the War was over prices of these crops declined abruptly. Farmers in many parts of the country turned to the growing of fruits and vegetables, some of which had already been expanded during the War. Fruit production increased until market supplies became burdensome. These increases were so easy of accomplishment that few realized what was going on until heavy supplies were upon us. One reason for this is that very little land is needed to cause a tremendous increase in fruit production. As a matter of fact, in 1930 the total acreage of land in orchards, sub-tropical fruits, vineyards, and planted nut trees amounted to only 1¼ per cent of our total crop and tillable pasture land area. It is quite evident to us now that even this small acreage has produced more fruits and nuts than we have been able to profitably dispose of in this country, and abroad. Low prices, especially of the last three years, have slowed up planting of tree fruits in general, but the large number of young trees of many fruits foreshadow continued heavy market supplies until their bearing capacity is reduced through further removals or neglect.

**Peaches**—Peach production expanded tremendously after the World War in the Southern States and in California. Peaches in California are used primarily for canning purposes, making them available in stores throughout the country throughout the year for use as desserts, salads, and pies.

Production from these Southern and California plantings became so heavy that in years of favorable growing conditions thousands of bushels were left unharvested. Peach growing in these States became unprofitable and as a result, from 1925 to 1930, the number of trees in the South declined about 15 per cent and in California about 6 per cent. This decline has done much to place the entire peach industry on a sounder economic basis. However, there are still sufficient trees in the South to produce heavy crops in years of very favorable growing conditions. In California the peak of production of cling-stone, canning varieties for the present cycle has apparently been reached, although surplus production may continue for several years unless there is a marked reduction in the number of trees. A slightly downward trend in production of free-stone peaches in the State is indicated.

In the states such as Virginia, West Virginia, Maryland, and Delaware, the number of peach trees decreased about 6.5 per cent from 1925 to 1930. In Pennsylvania the decrease was about 10 per cent. In most of the New England States, New York, and New Jersey the decline in tree numbers has been rather pronounced. No unusually large plantings have been made in recent years in any part of the United States.

**Grapes**—Grape plantings and production increased tremendously after

*(From Proceedings of Pennsylvania State Horticultural Association, January, 1933)

the War. The present bearing acreage is so large that burdensome supplies must be expected in seasons of normal growing conditions. This appears true in spite of the fact that total production has declined during the last 3 or 4 years. The grape industry is so largely dominated by the industry of California, where approximately 90 per cent of the total grape production in the United States occurs, that any material reduction in our heavy supplies must come from that state. The situation out there is such that in 1930 nearly 20 per cent of the crop was left on the vines. Even now with average growing conditions California may easily produce more grapes than were harvested in that state in 1930.

As to the American type, or Eastern grapes, there appears to be very little acreage yet to come into bearing and no indications of continued increased production. On the other hand, few vineyards have been removed and so far as we can determine comparatively few have been neglected or abandoned. Consequently, there is no immediate prospect of material decrease in production in the East except as yields per acre vary from year to year, or as the vineyards are neglected.

## Other Competing Fruits

Production of other fruits which compete with apples has also increased in recent years. Pears have been planted extensively in certain sections of the West, in many instances to take the place of apple orchards that were no longer profitable. Plum and prune production has been increased until only a few years ago it was not possible to market the entire crop. Cherries have been planted in both the East and West. Bearing cherry trees increased from 1920 to 1930 by 10 per cent and the trees increased from 1920 to 1930 by 10 per cent and the trees not of bearing age increased also. The upward trend in the production of cherries is expected to continue.

It is estimated that in the fall of 1931 the total number of trees in orange and grapefruit groves was twice as large as the number in 1920. Production has increased ten-fold during the last 40 years and has been increasing at an average rate of about 6 per cent per year during the last 10 years. Many of the recent plantings have been made in relatively new areas in which there is not much information on which to base estimates of probably production when the young trees shall have reached 15 or 20 years of age. Also, any calculation may be upset by freezes or other adverse conditions, but production from the trees already in bearing is normally so high that unless there is a severe freeze or unusual neglect of trees large citrus crops will continue to offer strong competition with apples.

It may be mentioned also that banana imports have increased during the last several years, and in terms of carloads have frequently exceeded the carload shipment of apples.

The present outlook, therefore, is for continued keen competition among the various fruits and for heavy market supplies of fruits that compete with apples in seasons when growing conditions are favorable.

## The Apple Situation

Fully to understand the apple situation we must go back even farther than the World War; in fact, to the previous major depression of 1893. For a number of years between 1893 and 1905 apple prices were very low. Orchards were neglected until apples became scarce. A period of heavy planting was

started which reached its height during the years 1910-1912. This period marked the development of the apple industry in the Northwest. At the same time heavy plantings were made in the Mid-western and Eastern States. In 1912 weather conditions were good and the largest crop of record up to that time was produced. In the fall of 1912 some of the best apples that ever grew sold for $6.00 a ton in the Williamette Valley of Oregon. This was at the rate of 15 cents a bushel or 45 cents per barrel.

Hard times prevailed in various apple growing regions for many years after the deluge of planting. Returns were so low that millions of trees were pulled up or abandoned. There is no way of accurately measuring this removal and abandonment but some idea of what happened may be had from the census figures. From 1910 to 1925 there was a net decrease of 79 million apple trees in the United States. From 1925 to 1930 there was another decrease of 21 million trees, making a total decrease of 100 million trees, or 46 per cent, in the last 20 years. Without further thought we might well enough wonder why there has been no shortage of apples for these 100 million trees would have had to produce less than 2 bushels per tree each year to have equalled the average annual production of the United States during the last 10 seasons.

Our interpretation of these facts leads to the following observations and conclusions. The removal of these trees has gone far toward correcting a bad situation caused by overplanting 25 years ago and has done much toward placing the industry on a sounder economic basis. But in spite of these removals production during the last 5 years has averaged only 7 per cent less than the average for the period 1909-1913, and only about 20 per cent less than for the high period 1914-1918. It must be remembered that these decreases in production probably would have been less if the last 5-year period did not include the drought year of 1930 and the very small crop of 1932.

These small declines in production as compared with the decline in tree numbers are due to the removals of many small farm orchards, many of which seldom produced well, to a weeding out of poorly located commercial orchards, better care of remaining commercial orchards, and the increasing bearing capacity of many trees as they have approached or reached full bearing age. This trend is manifest in the average yield per tree which increased from 1.2 bushels per bearing tree in the period 1908-1912 to an average of 1.9 bushels during the period 1928-1931. Another movement which has been going on is the decided shift to the more popular and better paying varieties. This shift was very noticeable after the World War. The movement has resulted in many relatively young orchards that have not reached full bearing capacity. An apple tree survey for 41 states indicates that in 1928, from 25 to 30 per cent of the trees in commercial orchards were under 9 years of age and 65 to 70 per cent were less than 19 years old. In our opinion the percentage of young trees now in orchards is large enough to maintain commercial production at a high level under conditions of average care. It is possible, however, and perhaps quite likely, that if hard times continue long many orchards will be neglected. If this happens the tendency will be for reduced production which should benefit those who remain in the business. As yet there has been no shortage of apples in years of favorable growing conditions; nor is there any immediate prospect for a shortage. In fact, *commercial* production, which may be more significant than *total* production, has increased year after year until a peak of 39 million barrels was reached in the very favorable

growing season of 1926. Since 1926 it has averaged somewhat higher than for the 5 years previous to 1926, and the 1931 commercial crop was the fourth largest on record.

**Western States**—In the eleven Pacific Coast and Mountain States production increased enormously during the development of the industry. For example, about 20 years ago these states produced 19 million bushels per year, whereas they now produce an average of about 56 million bushels annually. The reason for this is that while tree numbers declined there has been a steady increase in yield per bearing tree from an average of 1.5 bushels about 1910 to 4.4 bushels during the last 4 or 5 years.

The situation in the Western States today clearly indicates that production is near its peak for the present. In the three Pacific Coast States—Washington, Oregon, and California—a very small percentage of the trees are yet to come into bearing and production in these states is being fairly well maintained by resets and by an increase in producing capacity of trees due to an increase in their age. In the Rocky Mountain States production is declining.

Plantings in all of these Western States have been very light in late years. In Washington and Oregon the better commercial orchards are generally well cared for, but there is a tendency to cut out the poorer trees, particularly those of odd varieties, and there are indications that if the depression does not end soon a number of orchards will be at least temporarily abandoned.

East of the Continental Divide in Colorado orchards have suffered from a lack of irrigation water and are in poor condition. Many old ones are dead and others are far from thrifty. In Utah and Idaho the situation is somewhat better, the larger commercial orchards being well sprayed, pruned, and cultivated. The smaller orchards are not so well cared for.

The severe depression has affected western growers very materially because of their long distance from markets. In some years about one-half of the car unloads of apples in some of the eastern markets are from the boxed apple states. Transportation charges from the Northwest to distant domestic markets are now consuming a very large part of apple values, making it very difficult for Western growers to successfully compete with producers near the large eastern cities. Roadside stands are increasing in an attempt to dispose of more apples locally. Motor trucks are being used to carry apples into many parts of the western country where apples are not produced and from the interior of the coast States to the Pacific Coast for export. If apple prices remain low continued effort to reduce transportation costs for western apples may be expected.

**(To be continued)**

## *NITROGEN FERTILIZERS*

Maryland growers have had very marked results from the use of nitrogen fertilizers, and the use of these materials has become standard practice.

In New York Bulletin 623, issued, March, 1933, by N. Y. Agricultural Experiment Station, Geneva, N. Y., where five years' fertilizer trials are reported involving trees of various varieties from 14 to 40 years old, the conclusions drawn from results are of interest:

"Under conditions of low soil fertility and where an orchard is allowed

to remain in a heavy grass sod or where early spring cultivation is not practised, the use of some form of nitrogenous fertilizer has produced increased yields of apples.

The early spring application of nitrogen has produced larger yields of fruit than summer applications. Not only does the spring application provide a supply of nitrogen for the use of the tree early in the season, but where grass is growing in an orchard, it feeds the grass roots as well, for they are in competition with the tree roots for the nitrogen supply present in the soil.

The application of nitrogen in alternate years has not increased yields over annual applications, although the relatively short duration of these experiments may not truly reflect what the results may be over a longer period of years. The application of sodium nitrate after bloom each year has not resulted in any immediately significant yields above or below those obtained from the spring application of the same material.

There is very little evidence that a complete fertilizer containing nitrogen, phosphorus, and potash has given any increased yields over the use of nitrogen alone.

The use of 12 pounds of nitrate of soda on Greening trees, (24 years old) gave increased yields over a 6-pound application when made in the early spring.

On the McIntosh trees (17 years old) for a 2-year period, the use of 10 pounds of sodium nitrate and 10 pounds of ammonium sulfate gave larger yields than a 5-pound application, but this gain was had at the expense of color so that the 10-pound application had to be discontinued.

On Rome Beauty apples (14 years old) the 7.5 pound application of sodium nitrate or its equivalent in the other materials used did not result in increased yields over those obtained from the use of 5 pounds of sodium nitrate or its equivalent in the other materials.

The largest and most consistent yields of apples have been obtained from trees which have received their nitrogen in the more readily available forms, such as sodium nitrate, calcium nitrate, and ammonium sulfate. No significant differences have been found to exist in the production obtained from these three materials when used in equivalent quantities and their use, especially on infertile and light-textured soils, is to be preferred over the more slowly available forms of nitrogen carriers where the nitrogen must go through one or more changes before it becomes available to the tree roots.

On the heavier soils and those containing larger supplies of organic matter, and where cultivation or other means of hastening the nitrification process can be made effective, the use of calcium cyanamid, urea, and Calurea should prove satisfactory in producing increased apple yields on normal healthy trees in well-drained soil."

## *CORRECTION*

In the August, 1933 Maryland Fruit Grower, the statement on page 3, paragraph 6, "During the 'June Drop', however, a much *lighter* percentage of the selfed fruits dropped than in the case of the cross-pollinated fruits" is not correct. The statement referred to the self-pollinated fruits of Red Rome. The statement should read that a *higher* percentage of self-pollinated fruits of Red Rome dropped, than those which were cross-pollinated. In other words, Red Rome sets fruit best when cross-pollinated. We regret this error.

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